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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/289,168	04/09/99	SAIDA	K 4041J000216

QM02/0724

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EXAMINER	
FORD, J	
ART UNIT	PAPER NUMBER
3743	16

DATE MAILED: 07/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/289,168	Applicant(s) Saida et al.
	Examiner Ford	Art Unit 3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 4-11-01

2a)☐ This action is **FINAL**. 2b)☑ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☑ Claim(s) 1-30 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☑ Claim(s) 1-30 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☑ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other:

Applicant has filed an RCE with amended claims (Paper Nos. 14 & 15, filed April 11, 2001). New prior art to Todd (US 3,008,694) has come to the Examiner's attention. Figures 10 and 11 and 21 are most pertinent. See Kujirai et al. (US 5,715,705) Figure 7 and 9a - 9c, as well.

Claims 2, 4, 9-17 and 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether an air conditioner per se is being claimed or whether an air conditioner in combination with a vehicle is being claimed. All of the claims enumerated here claim orientation in the vehicle. The independent claims (i.e. 1, 8, 29 and 30) appear to be drawn to the air conditioner per se, yet the enumerated dependent claims appear to redefine the combination. Please make the scope of the independent claims clear (i.e. combination of vehicle and AC or AC alone) and make the dependent claims consistent in scope with the independent claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirota '107 or Ito '368 in view of Todd (3,008,694) or Kujirai et al (5715705).

Shirota '107 and Ito '368 show all of the pertinent patentable features except the introduction of air into the plenum in a direction perpendicular to the longitudinal direction of the evaporator tubes. Instead, in Shirota and Ito, the air is introduced at the side of the evaporator core in which the upper header in located, in a direction parallel to the longitudinal direction of the evaporator tubes.

To have reoriented the air entry in Shirota or Ito to be perpendicular to the tubes in the evaporator core would have been obvious to one of ordinary skill in considering Todd, Figures 10, 11 and 21. Heat exchanger 48 of Todd is angled downwardly from right to left in Figure 10. Blowers 38 push air perpendicular to the tubes as shown in Figures 10 and 11. Heat exchanger 48 can be used for cooling as disclosed in Figure 21. The same modification would have been obvious considering Figure 7 (note fan inlet 322) of Kujirai et al.

Applicants' response has been carefully considered. While the Examiner does not, for the most part, agree with applicants comments regarding Herrmann (in particular the analysis of why Hermann's tubes are horizontally oriented instead of angled downward in the plane of the heat exchanger). Of more concern to the Examiner is Denso's USP 5,954,578 disclosing in Figure 6 (legended prior art) and in Figure 1 a system which introduces air from a blower into a plenum in a direction perpendicular to the longitudinal direction of the tubes.

This is extremely pertinent prior art to what is being claimed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirota '107 or Ito '368 in view of Takasaki '578 and Hermann (Fig.6).

Shirota '107 and Ito '368 who all of the pertinent patentable features except the introduction of air into the plenum in a direction perpendicular to the longitudinal direction of the evaporator tubes. Instead, in Shirota and Ito, the air is introduced at the side of the evaporator core in which the upper header in located, in a direction parallel to the longitudinal direction of the evaporator tubes.

To have reoriented the air entry in Shirota or Ito to be perpendicular to the tubes in the evaporator core would have been obvious to one of ordinary skill in considering Takasaki and Figure 6 of Hermann which together teach this configuration. As discussed in Hermann, the unit can be made more compact and still house a fairly large evaporator. Applicants state in their comments in Paper No. 6, page 9, lines 7-9, and reiterate in Paper No. 9, pages 5-6 that in Hermann "an air-blowing direction under the heat exchange element (5) is parallel to the longitudinal direction of the tubes". The Examiner has re-read Hermann three times and is at a

loss as to how applicants can make this factual assertion, nor why they insist the parallel lines in Hermann must denote tubes rather than fins.

It is submitted there is no tube direction disclosed in Hermann. Herman simply teaches the same orientation of fan air supply direction relative to the tilted evaporator core orientation that applicants' disclose and claim. It is submitted that the tubes shown in Shirota and Ito are both oriented parallel to the tilted direction of the evaporator core as disclosed and claimed by applicants and, with regard to the Examiner's rejection, there is no reason why the downward orientation of those tubes in the direction core itself would be changed in the modification the Examiner has proposed. The Examiner only proposes changing the orientation of the fan relative to the tilted tube core in the manner taught by Figure 6 of Hermann. Takasaki, using applicants' own logic clearly discloses introduction of air in a direction perpendicular to the longitudinal direction of the tubes forming the evaporator core. The fact that Takasaki's core is vertical as opposed to substantially horizontal does not change the air flow.

Regarding claims 2-17, 20 and 24, the direction of the casing orientation in a vehicle is not a meaningful limitation in a claim (see claims 1 and 8) drawn to the air conditioner per se. If the combination of a vehicle and air conditioner is being claimed, please change claims 1 and 8 to clearly recite the combination. Absent such a combination claim or a "method-of-use" claim, matters of intended orientation in some unclaimed use in some unclaimed vehicle are extended no patentable weight. Notwithstanding, what the Examiner has just stated, he can see no reason why

the modified apparatus of Ito/Takasaki/Hermann or Shirota/Takasaki/Hermann undergoes any metamorphosis into some new, novel and unobvious apparatus merely by shifting the orientation of the components and/or the casing to the make in conveniently fit under the dashboard of the vehicle (if a vehicle is even being claimed). In the forthcoming reply to this action, please address in detail why each of claims 2-17, 20 and 24, in so far as orientation of the air conditioning apparatus within the vehicle is being claimed, defines patentable subject matter. It appears to the Examiner that this is just routine engineering design. If some part of the unit doesn't fit (e.g. it interferes with the steering column etc.) then it is moved or reoriented (e.g. move the fan or reorient the casing) until it does fit. It is submitted that the orientations claimed in claims 2-17, 20 and 24 are no more than the orientations which happen to work in the vehicle that applicants' device is being fitted into. If it is anything more than this, please provide evidence commensurate in scope with these claims to back-up any assertions made.

John K. Ford
Primary Examiner

J. Ford/eb
July 16, 2001

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a)

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.